Space Weather Forecast

Issued on Friday, 25 November 2022 at 01:20 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales

Space Weather Forecast Headline: Slight chance of Minor Geomagnetic Storm (G1) intervals.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity has been Very Low at background levels. There are 4 regions on the disk, all relatively stable, weak and magnetically simple. No Earth-directed CMEs were observed.

Solar Wind / Geomagnetic Activity: The solar wind persisted at background levels until the evening, when the solar wind speed increased to slightly elevated levels. The total magnetic field strength remained weak until the end of the day, then increased to reach Strong levels. Meanwhile the north-south component was weak with little variation until the evening, and then fluctuated at Moderate levels. Geomagnetic activity remained Quiet.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) remained at background with no solar radiation storms observed.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is expected to remain Very Low, with a slight chance of isolated Moderate-class flares. Later in the forecast period new regions may rotate onto the visible disc, although any potential regions are not expected to be significant.

Solar Wind / Geomagnetic Activity: Slightly elevated solar winds are expected today (25th) due to the arrival of a slight enhancement from a small coronal hole feature, with a chance of temporary elevated solar wind speeds developing. Further slight enhancements in the solar wind are possible through the rest of the forecast period, from either the weak passing CMEs or another weak connection to a coronal hole late tomorrow (26th). Quiet to Unsettled geomagnetic activity at first is expected to increase to mostly Unsettled to Active from late today and then persist until late day 3 (27th), with a chance of Minor geomagnetic storm intervals. Geomagnetic activity is expected to gradually decline from late day 3 (27th) and especially through day 4 (28th) to become Quiet to Unsettled again.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is forecast to persist at background with no solar radiation storms occurring.

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2022. All Rights Reserved.

Met Office Space Weather Forecast

Geomagnetic Storms:

Geo-Magnetic Storm Probability (Exceedance)	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Minor or Moderate	G1 to G2	No	20	30	20	10
Strong	G3	No	1	1	1	1
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares Probability	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	R1-R2 M Class	No	10	10	10	10
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms Probability (Exceedance)	Level (cm^{-2} sr^{-1} s^{-1})	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC) (%)	Day 2 (00-24 UTC) (%)	Day 3 (00-24 UTC) (%)	Day 4 (00-24 UTC) (%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = $cm^{-2}sr^{-1}s^{-1}$)

Issued by Met Office Space Weather Advisor, Tel: +44 (0) 330 135 4254 Email: moswoc@metoffice.gov.uk

© Crown Copyright 2022. All Rights Reserved.